Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented)A catheter for use in conveyance of a formulation, the catheter comprising:

first and second materials configured to define a tubular structure, the tubular structure having a proximal and a distal end;

wherein the second material has a permeability lower than polyethylene for CO_2 to prevent obstructions from forming in the formulation.

2. (Original) The catheter as recited in claim 1, wherein the first material is disposed outside the second material.

3. (Original) The catheter as recited in claim 1, wherein the first material is disposed inside the second material.

4. (Previously presented)The catheter as recited in claim 1, wherein the second material comprises a material that has a permeability index for CO_2 that is lower than the permeability index of the outer material for CO_2.

5. (Previously presented)T he catheter as recited in claim 4, wherein the obstructions form as a result of diffusion of the CO_2 into the catheter.

6. – 7. (Cancelled)

8. (Original) The catheter as recited in claim 1, wherein the second material comprises a material selected from the group consisting of halogenated polymers.

9. (Original) The catheter as recited in claim 8, wherein the halogenated polymer is selected from the group essentially consisting of polytetrafluorethylene, polyvinylidene chloride and polyvinylidene fluoride.

10. (Original) The catheter as recited in claim 1, wherein the second material comprises a material selected from the group consisting essentially of polyamides, ethylene-vinyl alcohol, polyetheretherketone, nylon and polyester.

11. (Original) The catheter as recited in claim 1, wherein the second material is capillary glass.

12. (Original) The catheter as recited in claim 1, wherein the second material is diamond coated.

13. (Original) The catheter as recited in claim 1, wherein the first material comprises a material that is bio-compatible.

14. (Original) The catheter as recited in claim 2, wherein an inner surface of the first material substantially covers an outer surface of the second material.

15. (Original) The catheter as recited in claim 2, wherein an inner surface of the first material covers only a portion of an outer surface of the second material.

16. (Original) The catheter as recited in claim 15, wherein the portion of the outer surface of the second material covered by the inner surface of the first material is located at the distal end.

17. (Original) The catheter as recited in claim 1, further comprising an interior layer contacting an inner surface of the second material, the interior layer comprising a substance that regulates an interaction of substances with the interior layer.

18. (Original) The catheter as recited in claim 17, wherein the substance is a hydrophilic substance.

19. (Original) The catheter as recited in claim 17, wherein the substance is a hydrophobic substance.

20. (Original) The catheter as recited in claim 1, wherein an inner diameter of the distal end has a flared shape.

21. (Original) The catheter as recited in claim 20, wherein an outer diameter of the distal end is substantially constant across the flared shape.

22. (Original) The catheter as recited in claim 1, wherein the proximal end is connected to an implantable infusion pump.

23. (Original) The catheter as recited in claim 1, wherein the first material is more flexible than the second material.

24. (Original) The catheter as recited in claim 1, wherein the first material has a lower flexural modulus than the second material.

25. – 43. (Cancelled)

44. (Previously presented)An implantable infusion pump system for use in delivery of a formulation, the system comprising:

a pump for delivering measured doses of a formulation;

a sensing device for regulating the delivery of the formulation; and

a catheter for conveying the formulation from the pump to an infusion site, the catheter comprising:

an outer material;

an inner barrier material;

a proximal end attached to the pump; and

a distal end located at the infusion site;

wherein the barrier material has a permeability lower than polyethylene for CO_2 to prevent obstructions from forming in the formulation.

45. – 46. (Cancelled)

47. (Previously presented)A n implantable infusion pump system for use in delivery of a formulation, the system comprising:

a pump for delivering measured doses of a formulation;

a sensing device for regulating the delivery of the formulation; and

a catheter for conveying the formulation from the pump to an infusion site, the catheter comprising:

a proximal end attached to the pump; and

a distal end located at the infusion site;

wherein the catheter comprises a material having a permeability lower than polyethylene for CO_2 to prevent obstructions from forming in the formulation.

48. (Original) The implantable infusion pump system as recited in claim 47, wherein the material comprises a material selected from the group consisting of halogenated polymers.

49. (Original) The implantable infusion pump system as recited in claim 48, wherein the halogenated polymer is selected from the group essentially consisting of polytetrafluorethylene, polyvinylidene chloride and polyvinylidene fluoride.

50. (Original) The implantable infusion pump system as recited in claim 47, wherein the material comprises a material selected from the group consisting essentially of polyamides, ethylene-vinyl alcohol, polyetheretherketone, nylon and polyester.

51. (Original) The implantable infusion pump system as recited in claim 47, wherein the material is capillary glass.

52. (Original) The implantable infusion pump system as recited in claim 47, wherein the material is a diamond coated material.

53. (Previously presented)A catheter for use in conveyance of a formulation, the catheter comprising:

an outer material;

an inner material;

a proximal end; and

a distal end;

wherein at least one of the outer material and the inner material has a permeability lower than polyethylene for CO_2 to prevent obstructions from forming in the formulation.

54. (Cancelled)

55. (Previously presented)A catheter for use in conveyance of a formulation, the catheter comprising:

first and second materials configured to define a tubular structure, the tubular structure having a proximal and a distal end;

wherein the second material has a permeability lower than polyethylene for phenolic compounds to prevent obstructions from forming in the formulation.

56. (Previously presented)The catheter as recited in claim 55, wherein the first material is disposed outside the second material.

57. (Previously presented)The catheter as recited in claim 55, wherein the first material is disposed inside the second material.

58. (Previously presented)The catheter as recited in claim 55, wherein the obstructions occur as a result of diffusion of the phenolic compounds out of the catheter.

59. (Previously presented)The catheter as recited in claim 55, wherein the phenolic compounds comprise at least one of phenol and m-cresol.

60. (Previously presented)The catheter as recited in claim 55, wherein the second material comprises a material selected from the group consisting of halogenated polymers.

61. (Previously presented)The catheter as recited in claim 60, wherein the halogenated polymer is selected from the group essentially consisting of polytetrafluorethylene, polyvinylidene chloride and polyvinylidene fluoride.

62. (Previously presented)The catheter as recited in claim 55, wherein the second material comprises a material selected from the group consisting essentially of polyamides, ethylene-vinyl alcohol, polyetheretherketone, nylon and polyester.

63. (Previously presented)The catheter as recited in claim 55, wherein the second material is capillary glass.

64. (Previously presented)The catheter as recited in claim 55, wherein the second material is diamond coated.

65. (Previously presented)The catheter as recited in claim 55, wherein the first material comprises a material that is bio-compatible.

66. (Previously presented)The catheter as recited in claim 55, wherein an inner surface of the first material substantially covers an outer surface of the second material.

67. (Previously presented)The catheter as recited in claim 55, wherein an inner surface of the first material covers only a portion of an outer surface of the second material.

68. (Previously presented)The catheter as recited in claim 67, wherein the portion of the outer surface of the second material covered by the inner surface of the first material is located at the distal end.

69. (Previously presented)The catheter as recited in claim 55, further comprising an interior layer contacting an inner surface of the second material, the interior layer comprising a substance that regulates an interaction of substances with the interior layer.

70. (Previously presented)The catheter as recited in claim 69, wherein the substance is a hydrophilic substance.

71. (Previously presented)The catheter as recited in claim 69, wherein the substance is a hydrophobic substance.

72. (Previously presented)The catheter as recited in claim 55, wherein the proximal end is connected to an implantable infusion pump.

73. (Previously presented)The catheter as recited in claim 55, wherein the first material is more flexible than the second material.

74. (Previously presented)The catheter as recited in claim 55, wherein the first material has a lower flexural modulus than the second material.